

Peripheral Giant cell Granuloma of the Mandible

-- A case report and review of literature

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ABSTRACT:

Peripheral giant cell proliferation is an enigmatic lesion that seems to arise from the periosteum or periodontal ligament and contains granulation tissue with osteoclasts. The lesion presents as a soft, fleshy, broad based, friable mass that often arises from a source of inflammation. We report a case of peripheral giant cell granuloma in a male patient with a brief review of literature.

Keywords: peripheral giant cell lesion, giant cells

INTRODUCTION

The peripheral giant cell lesion is an exophytic red friable mass that often arises from a source of inflammation such as root tip, foreign body, sharp crown margins or poor oral hygiene.

The lesions of peripheral giant cell granuloma arise from gingiva or edentulous ridge but not from extra gingival sites such as lips tongue or buccal mucosa.

The lesion seldom attains size greater than 5 to 7cm and may develop superficial ulcerations.

CASE REPORT

A male patient of 38 years of age, reported to the department of Oral Medicine and Radiology at Dr D Y Patil, Pimpri Pune with a chief complaint of mobile teeth in the lower anterior region. The patient gave no history of any adverse habits such as Tobacco or bettle nut etc. On general physical examination the patient appeared to be thin built with no history of any physical ailments.

On intra oral examination there was grade II mobility with 31 and 41. A soft tissue mass was seen in the region between 41 and 42 extending from the alveolar ridge between 41 and 42 to the lingual aspect of the same. Patient observed the mass three months back, there was no increase in the size since then. There was occasional pain which was self limiting.

On inspection and palpation the mass appeared to be a sessile growth roughly around 1 cm x 1cm in size and ovoid in shape (Fig 1). The surface of the swelling appeared ulcerating with mixed red and white appearance. The lesion was soft in consistency with spontaneous bleeding on probing.

RADIOGRAPHIC EVALUATION

Intra oral Periapical Radiograph of the lower anterior region and *mandibular occlusal view* were taken to study the pathology.

Both the views revealed a loss of alveolar bone with the affected teeth and slight tipping of the teeth associated with the mass. (Fig.2 and 3)

An excisional biopsy was done along with the extraction of 31 and 41 and the tissue was sent for Histopathological evaluation.

HISTOPATHOLOGY

Histopath revealed hematoxylin and eosin stained section of hyper plastic parakeratinised stratified squamous epithelium. The underlying fibro cellular connective tissue contained plenty of multinucleated giant cells, numerous dilated blood vessels with extravasated RBCs and chronic inflammatory cell infiltrate. The overall Histopathological features were confirmatory of Giant cell lesion (Fig.4).

The patient was further advised to undertake investigation of serum calcium, phosphate and alkaline

phosphatase levels to rule out hyperparathyroidism. The levels of these were within normal limits after investigations.

The term “giant cell reparative granuloma” was first used by Jaffe [2] and “peripheral giant cell reparative granuloma” by Bernier and Cahn [3].



Fig. 1. Intra oral photograph showing Soft tissue mass between 41 and 42.

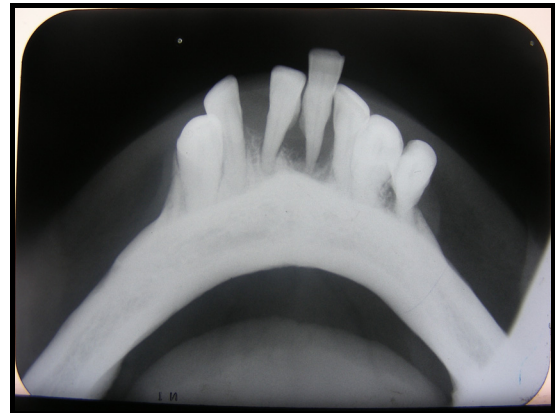


Fig. 3 Mandibular Occlusal view Radiograph showing alveolar bone loss



Fig.2 Intra oral periapical

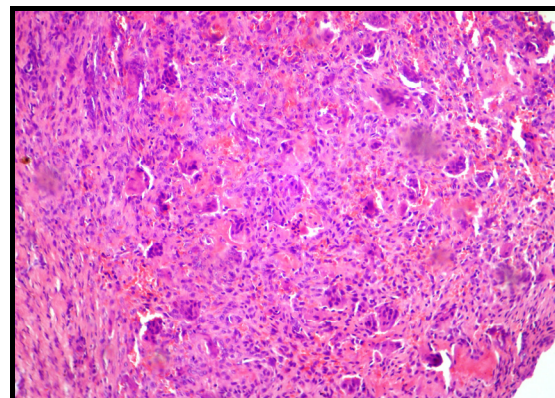


Fig. 4. Histopathology view showing multinucleated giant cells

DISCUSSION

The Peripheral giant cell granuloma (PGCG) is a reactive exophytic lesion occurring on the gingiva and alveolar ridge usually as a result of local irritating factors such as tooth extraction, poor dental restorations, poor periodontal status, food impactions, plaque, calculus and ill fitting dentures [1].

The clinical appearance of PGCG is a small, well demarcated dark red focal mass on gingiva with a sessile or pedunculated base usually originating from either the periodontal ligament or mucoperiosteum [4, 5].

PGCG may occur at any age but exhibits a peak incidence between 40 and 60 years. The average age of diagnosis is approximately 38 to 42 years [1] with women being affected more than men. The site predilection is usually the mandible anterior region upto the molars.

The size of the lesion varies usually from 0.5cm to 1.5cm in the largest diameter.

The maximum capability for PGCG to expand is unknown. Kfir et al reported PGCG ranging in size from 0.1 to 3.0 cm, and 94% of lesions were smaller than 1.5 cm. another study revealed that the lesion can grow upto 5 cm in largest diameter.

The radiographic findings are usually unremarkable, as the lesion is a soft tissue mass. However, an occasional saucer like erosion in the underlying bone is seen [6].

Both peripheral and central lesions are histologically similar and are considered examples of benign inflammatory hyperplasia in which cells with fibroblastic , osteoblastic and osteoclastic potentials predominate [8].

Peripheral giant cell granulomas are five times as common as central lesions.

The lesions are highly vascular and hemorrhage is a prominent clinical and histological feature.

An important consideration in the management of these lesions is the necessity to search for evidence of hyperparathyroidism [8]. A peripheral giant cell granuloma rarely has been an initial or early manifestation of hyperthyroidism [7].

Serum calcium, phosphorus and alkaline phosphatase should be undertaken immediately following the histological diagnosis. Any abnormality in these tests would further call for medical or endocrinological consultation, at which time the need for specific measurement of parathormone levels could be determined.

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